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SEPARATED TOWN OF PRESCOTT 1964
COUNTY OF GRENVILLE

THE
ONTARIO WATER RESOURCES
COMMISSION
WATER POLLUTION SURVEY
of the
SEPARATED TOWN OF PRESCOTT
COUNTY OF GRENVILLE

1964

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A water pollution survey of the
separated town of Prescott in
the county of Grenville.

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THE
ONTARIO WATER RESOURCES
COMMISSION

A
WATER POLLUTION SURVEY
of the
SEPARATED TOWN OF PRESCOTT
in the
COUNTY OF GRENVILLE

Division of Sanitary Engineering
November 1964

A
WATER POLLUTION SURVEY
of the
SEPARATED TOWN OF PRESCOTT

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INTRODUCTION

A water pollution survey of the Town of Prescott was performed on November 2 and 3, 1964, in order to assess conditions existing within the municipality which might affect the sanitary quality of the waters of the St. Lawrence River. Enquiries and investigations were made with respect to outfalls which discharge to the watercourse. Samples were collected to determine the significance of these outfalls and their effects on the receiving stream. Recommendations are made concerning the abatement of conditions which exert adverse effects on water quality. A map showing the pertinent details is appended.

PERSONS INTERVIEWED

Interviews were held with the following officials during the survey:

Mr. N.W.D. Barber, Municipal Clerk;
Mr. Foch Healey, P.U.C. Manager;
Mr. Borden Morris, Works Foreman;
Mr. B. H. Young, Chief Public Health Inspector.

The above mentioned officials provided much valuable assistance during this survey.

TOWN OF PRESCOTT

Prescott, a separated town, is located in the east end of the Township of Augusta and is bounded on the south by the St. Lawrence River. According to the 1964 Municipal Directory, the town has a population of 5,151 and a total area of 1,000 acres.

Incorporated as a town in 1834, Prescott was named after Major-General Robert Prescott, Governor-in-Chief of British North America.

WATER USES

Municipal

The municipal water treatment plant is located near the west limits of the town at the foot of Sophia Street. The water supply is taken from the St. Lawrence River via a 200-foot intake and is afforded coarse screening, chlorination and fluoridation. A 150,000-gallon capacity elevated storage tank provides storage for the system. An average daily consumption by the town amounts to approximately 745,000 gallons.

Recreational

A swimming area, located at the foot of St. Lawrence Street and known locally as Kelly's Bay, has enjoyed only intermittent approval by the local health unit.

Industrial

All industrial demands for water in the town are supplied by the municipal system.

SEWERAGE SYSTEM

Surface Drainage

Three of the nine sewers are designated as storm sewers. The largest one known as the Vankougnet Street storm

sewer serves the east and north-east section of the town. The Centre Street storm sewer serves a very limited area of the center of town. The St. Lawrence Street storm sewer serves a small area near the west end of the town, however, it was dry on this occasion. The extent to which storm flows have access to sanitary sewers is not known.

Sanitary Sewerage System

Three 15-inch diameter sewers; namely the Boundary, Edward and West Streets sewers, serve approximately equal areas of the town. Two small six-inch diameter sewers serve very limited areas in the central and west section of the town and are known as the Water and Sophia Street sewers.

All wastes from these outfalls discharge directly to the St. Lawrence River without the benefit of any treatment.

A recently installed sewage pumping station on Florence Street delivers sewage flows to the Boundary Street sewer. This unit reportedly is not equipped with overflow facilities.

A private sanitary outfall, labelled SL 77-35P on the appended map, which reportedly serves two large waterfront residences at the west end of town, discharges raw sewage directly to the St. Lawrence River. A sample of the outfall was not obtained during this survey due to the intermittent nature of the discharge. Adequate means of waste disposal will be necessary to serve these premises, either an individual sub-surface system or a connection to the municipal sanitary sewer.

INDUSTRIAL WASTES

All the industries located in Prescott are served by the municipal sewer system. A list of the industries is appended.

SANITARY LANDFILL

A sanitary landfill site for the disposal of garbage and refuse is located east of Edward Street and immediately south of Highway 401. There is no defined watercourse in the vicinity of this site and no obvious indication of any potential risk to surface water quality.

PROPOSED TREATMENT FACILITIES

In 1958, the Town of Prescott had a consulting engineer's report prepared on sewage treatment needs which outlined proposals for a primary treatment plant or an oxidation pond at several sites. The municipality has not embarked on a sewage works programme to date.

SAMPLING PROCEDURE

The sampling procedure, as established during previous surveys of the St. Lawrence River, included collection of upstream and downstream samples at the locations listed below and shown on the appended map.

- SL 78.2 - St. Lawrence River west of creek outlet 1 mile west of Prescott boundary.
- SL 75.8 - St. Lawrence River 200 feet west of first railway viaduct east of Prescott.

At the time of this survey, samples were collected from the water works intake, from the local bathing area, from the following sewer outfalls or accessible manholes where the outfall is submerged and also from the St. Lawrence River in the vicinity of these sewer outfalls.

- SL 77.35 - Sophia Street sewer outfall
- SL 77.0S - West Street sewer at manhole on King St.
 - *D.O.T. sewer at manhole on West St. below King St.
- SL 76.95 - Water Street sewer outfall
- SL 76.6W - Center Street storm sewer at manhole in coal yard.
- SL 76.5S - Edward Street sewer outfall
- SL 76.4W - Vankougnet Street storm sewer outfall
- SL 76.0S - Boundary Street sewer outfall

All of the analyses were performed at the Ontario Water Resources Commission laboratory in Toronto.

An interpretation and significance of the laboratory results are contained in the appendices to this report.

SAMPLE RESULTS

The table of laboratory analyses is appended. By a comparison of the upstream and downstream sample results a deterioration of the waters of the river is noted.

The low counts noted in the outfall sample from the Sophia Street sewer can be attributed to the continuous flushing of this sewer.

Samples were collected from the West Street sewer at King Street and from the D.O.T. Building sewer at West Street since their outfall is submerged. High 5-day BOD and excessive coliform counts are noted in these samples.

*Federal Department of Transport

The low counts reported in the outfall sample from the Water Street sewer may also be attributed to the continuous flushing of this sewer.

The 5-day BOD, phenols and coliform content of a sample from the Center Street storm sewer corroborate the report that sanitary and industrial wastes may have access to it.

A high 5-day BOD and excessive coliform content are noted in a sample collected from the Edward Street sewer outfall.

The high coliform count noted in the sample collected from the Vankougnet Street storm sewer outfall indicates that sanitary wastes have access to this sewer.

The laboratory analyses results of samples collected from the Boundary Street sewer and the St. Lawrence River in that vicinity reveal excessive coliform counts.

The high coliform count reported in the sample collected from Kelly's Bay confirms the local health authorities concern over this bathing area.

A review of the above survey findings substantiates the need of adequate sewage treatment facilities for the Town of Prescott.

SUMMARY AND CONCLUSIONS

A water pollution survey of the Separated Town of Prescott was conducted on November 2 and 3, 1964. This survey was performed to assess the possible pollution of the waters of the St. Lawrence River in the vicinity of the Town of Prescott. Samples of the sewer outfalls and the receiving waters in the vicinity of these outfalls were collected at this time. These results, together with those of previous river surveys, indicate

the lack of adequate waste treatment and the consequent deterioration of stream quality. The results also indicate the need for segregation of contaminated flows at present discharging to the storm sewer system and their redirection to the sanitary sewerage system. The area at present served by the private sewer outfall could be included in the municipal sewage works program.

RECOMMENDATIONS

1. Officials of the Separated Town of Prescott should proceed without further delay to provide adequate sewage treatment facilities.
2. Contaminated flows at present discharging to the storm sewers should be directed to the sanitary sewer system.
3. The area served by the private sewer outfall should be included in the overall sewage works program.

All of which is respectfully submitted,

District Engineer:


J. K. Theil

Approved by:


K. H. Sharpe, Director

Prepared by: Mr. A. D. McConnell, Eng. Tech.

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INTERPRETATION AND SIGNIFICANCE OF LABORATORY RESULTS

The analyses employed in this investigation to assess the quality of outfall discharges and surface waters were biochemical oxygen demand (BOD), suspended solids, and the total coliform count.

The BOD of sewage, industrial wastes, or polluted waters, is the oxygen required during stabilization (natural purification in a stream) of the decomposable organic or chemical material by aerobic biochemical action. A five-day BOD determination with incubation at twenty degrees Centigrade is reported. A high BOD is indicative of organic or chemical pollution. A desirable upper limit in surface water is four (4) parts per million (ppm).

Suspended solids are reported in parts per million and indicate the measure of undissolved solids of organic or inorganic nature.

The total coliform count is employed to obtain an enumeration of coliform organisms, and the number is reported per 100 millilitres (ml) of the sample. The membrane filter technique was used in the examination of these samples. A maximum limit of 2,400 coliform organisms per 100 ml is the OWRC objective for the bacteriological quality of surface water in Ontario.

LIST OF INDUSTRIES

Existing Manufacturing Industries

Products

Cleveland Container Canada Limited	Paper Tubes
Prescott Paper Products Limited	Paper Bags
Louis Fischl Glove Company Limited	Gloves
Superior Silk Mills Limited	Lingerie, Gloves
Wellington - Walker Limited	Sport & Dress Shirts
Newell Manufacturing Company Ltd.	Drapery Hardware
RCA Victor Company	Radio - T.V.
Elliott Brothers Limited	Caskets
Ferrox Iron Limited	Smelting
Simplex Textiles Limited	Trico Knit Goods
Jamaica Brass Mfg. Co. of Canada	Valves, Fittings
Prescott Beverages	Soft Drinks
St. Lawrence Printing Company	Newspaper & Printing

TABLE OF LABORATORY RESULTS

ALL ANALYSES ARE REPORTED IN PPM
UNLESS OTHERWISE INDICATED.

SAMPLES PERTINENT TO ST. LAWRENCE RIVER

SAMPLE POINT NUMBER	DATE	DESCRIPTION	5-DAY BOD	S O L I D S			PHENOLS ETHER		BACTERIOLOGICAL EXAMINATION
				TOTAL	SUSP.	DISS.	IN PPB	SOLUBLES	COLIFORMS PER 100 ML
SL 78.2	JULY 18/62	ST. LAWRENCE RIVER WEST OF CREEK OUTLET							34
	AUG. 22/63	1 MILE WEST OF PRESCOTT BOUNDARY							12
	JULY 8/64								110
SL 77.4	NOV. 2-3/64	ST. LAWRENCE R. OPPOSITE WEST BOUNDARY OF PRESCOTT	0.8	230	1	229	-	-	20
SL 77.3	"	ST. LAWRENCE R. OPPOSITE PRESCOTT W.W.	0.7	218	1	217	-	-	68
SL 77.3	"	ST. LAWRENCE R. - PRESCOTT WATER WORKS INTAKE	1.0	212	1	211	-	-	80
SL 77.1	"	ST. LAWRENCE R. - KELLY'S BAY BATHING BEACH	0.9	226	3	223	-	-	3,800
SL 77.0	"	ST. LAWRENCE R. OPPOSITE WEST ST. SEWER OUTFALL	0.5	196	2	194	-	-	188
SL 76.9	"	ST. LAWRENCE R. OPPOSITE WATER ST. SEWER OUTFALL	0.7	206	2	204	-	-	BROKEN IN TRANSIT
SL 76.7	"	ST. LAWRENCE R. OPPOSITE CENTRE ST. SEWER OUTFALL	0.7	218	1	217	-	-	BROKEN IN TRANSIT
SL 76.5	"	ST. LAWRENCE R. OPPOSITE EDWARD ST. SEWER OUTFALL	1.1	234	2	232	-	-	540
SL 76.4	"	ST. LAWRENCE R. OPPOSITE VANKOUGNET ST. STORM SEWER OUTFALL	0.6	228	4	224	-	-	228
SL 76.0	"	ST. LAWRENCE R. OPPOSITE BOUNDARY ST. SEWER OUTFALL	11.0	232	34	198	0	4	3,800,000
SL 75.8	JULY 18/62	ST. LAWRENCE R. 200' EAST OF WEST RAILROAD VIADUCT - EAST OF PRESCOTT	--	---	--	---	-	-	1,100
	JULY 2/63		--	---	--	---	-	-	380
	AUG. 22/63		--	---	--	---	-	-	114
	JULY 8/64		--	---	--	---	-	-	160
SL 77.3 S	NOV. 2-3/64	SOPHIA ST. SEWER OUTFALL	0.9	244	2	242	-	-	0
SL 77.0 S	"	WEST ST. SEWER AT MANHOLE ON KING STREET	205.0	646	186	460	-	-	63,000,000
SL 77.0 S	"	FEDERAL DEPARTMENT OF TRANSPORT SEWER AT MANHOLE ON WEST ST. BELOW KING STREET	740.0	2982	2634	348	-	-	3,000,000
SL 76.9 S	"	WATER STREET SEWER OUTFALL	0.6	204	6	198	-	-	0
SL 76.7 W	"	CENTER ST. STORM SEWER AT MANHOLE IN COALYARD	11.0	934	604	330	10	-	250,000
SL 76.5 S	"	EDWARD ST. SEWER OUTFALL	40.0	376	62	314	-	-	68,000,000
SL 76.4 W	"	VANKOUGNET ST. STORM SEWER OUTFALL	0.6	364	1	363	-	-	8,700
SL 76.0 S	"	BOUNDARY ST. SEWER OUTFALL	68.0	380	68	312	20	21	70,000,000

